



$I(J^P) = 0(\frac{1}{2}^+)$  Status: \*\*\*

The quantum numbers have not been measured, but are simply assigned in accord with the quark model, in which the  $\Omega_c^0$  is the *ssc* ground state.

NODE=S047

### $\Omega_c^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>2695.2 ± 1.7 OUR FIT</b>				Error includes scale factor of 1.3.

**2695.2 ± 1.8 OUR AVERAGE** Error includes scale factor of 1.3. See the ideogram below.

2693.6 ± 0.3 <sup>+1.8</sup><sub>-1.5</sub> 725 ± 45 SOLOVIEVA 09 BELL  $\Omega^- \pi^+$  in  $e^+ e^- \rightarrow \gamma(4S)$

2694.6 ± 2.6 ± 1.9 40 <sup>1</sup> CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV

2699.9 ± 1.5 ± 2.5 42 <sup>2</sup> FRABETTI 94H E687  $\gamma$ Be,  $\bar{E}_\gamma = 221$  GeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

2705.9 ± 3.3 ± 2.0 10 <sup>3</sup> FRABETTI 93 E687  $\gamma$ Be,  $\bar{E}_\gamma = 221$  GeV

2719.0 ± 7.0 ± 2.5 11 <sup>4</sup> ALBRECHT 92H ARG  $e^+ e^- \approx 10.6$  GeV

2740 ± 20 3 BIAGI 85B SPEC  $\Sigma^-$  Be 135 GeV/c

1 CRONIN-HENNESSY 01 sees  $40.4 \pm 9.0$  events in a sum over five channels.

2 FRABETTI 94H claims a signal of  $42.5 \pm 8.8$   $\Sigma^+ K^- K^- \pi^+$  events. The background is about 24 events.

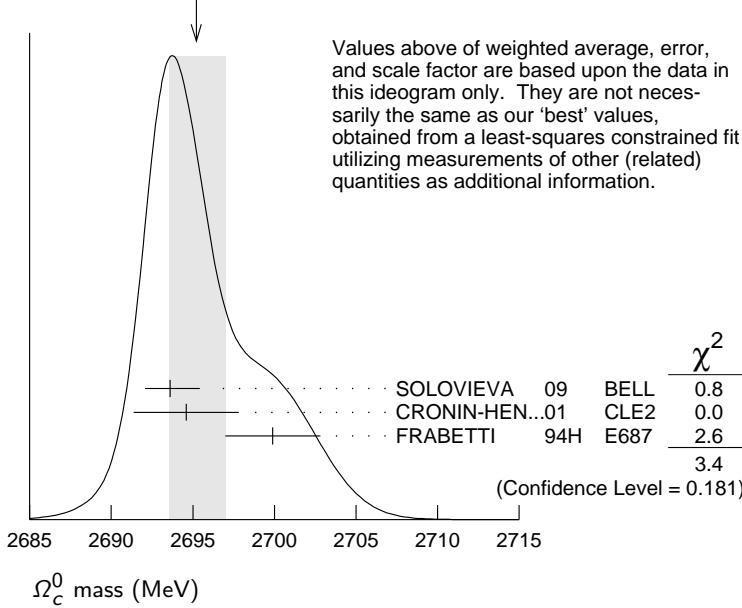
3 FRABETTI 93 claims a signal of  $10.3 \pm 3.9$   $\Omega^- \pi^+$  events above a background of 5.8 events.

4 ALBRECHT 92H claims a signal of  $11.5 \pm 4.3$   $\Xi^- K^- \pi^+ \pi^+$  events. The background is about 5 events.

NODE=S047M

NODE=S047M

WEIGHTED AVERAGE  
2695.2+1.8-1.6 (Error scaled by 1.3)



NODE=S047M;LINKAGE=CH

NODE=S047M;LINKAGE=C

NODE=S047M;LINKAGE=A

NODE=S047M;LINKAGE=B

### $\Omega_c^0$ MEAN LIFE

VALUE ( $10^{-15}$ s)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>69 ± 12 OUR AVERAGE</b>				

72 ± 11 ± 11 64 LINK 03C FOCS  $\Omega^- \pi^+, \Xi^- K^- \pi^+ \pi^+$

55 <sup>+13 +18</sup><sub>-11 -23</sub> 86 ADAMOVICH 95B WA89  $\Omega^- \pi^- \pi^+ \pi^+, \Xi^- K^- \pi^+ \pi^+$

86 <sup>+27</sup><sub>-20</sub> ± 28 25 FRABETTI 95D E687  $\Sigma^+ K^- K^- \pi^+$

NODE=S047T

NODE=S047T

## $\Omega_c^0$ DECAY MODES

No absolute branching fractions have been measured.

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \Sigma^+ K^- K^- \pi^+$	seen
$\Gamma_2 \Xi^0 K^- \pi^+$	seen
$\Gamma_3 \Xi^- K^- \pi^+ \pi^+$	seen
$\Gamma_4 \Omega^- e^+ \nu_e$	seen
$\Gamma_5 \Omega^- \pi^+$	seen
$\Gamma_6 \Omega^- \pi^+ \pi^0$	seen
$\Gamma_7 \Omega^- \pi^- \pi^+ \pi^+$	seen

## $\Omega_c^0$ BRANCHING RATIOS

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$
<b>VALUE</b> $\frac{\text{EVTS}}{\text{CL\%}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma(\Omega^- \pi^+)$	$\Gamma_1/\Gamma_5$
<b>VALUE</b> $\frac{\text{CL\%}}{\text{EVTS}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<4.8$  90 CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV

$\Gamma(\Xi^0 K^- \pi^+)/\Gamma(\Omega^- \pi^+)$	$\Gamma_2/\Gamma_5$
<b>VALUE</b> $\frac{\text{EVTS}}{\text{CL\%}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

**4.0±2.5±0.4** 9 CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV

$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma_{\text{total}}$	$\Gamma_3/\Gamma$
<b>VALUE</b> $\frac{\text{EVTS}}{\text{CL\%}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>
<b>seen</b> 11 ALBRECHT 92H ARG $e^+ e^- \approx 10.6$ GeV	

**seen** 3 BIAGI 85B SPEC  $\Sigma^-$  Be 135 GeV/c

$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$	$\Gamma_3/\Gamma_5$
<b>VALUE</b> $\frac{\text{CL\%}}{\text{EVTS}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

**0.46±0.13±0.03**  $45 \pm 12$  AUBERT 07AH BABR  $e^+ e^- \approx \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$1.6 \pm 1.1 \pm 0.4$  7 CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV  
 $<2.8$  90 FRABETTI 93 E687  $\gamma$  Be,  $\bar{E}_\gamma = 221$  GeV

$\Gamma(\Omega^- \pi^+)/\Gamma(\Omega^- e^+ \nu_e)$	$\Gamma_5/\Gamma_4$
<b>VALUE</b> $\frac{\text{EVTS}}{\text{CL\%}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

**0.41±0.19±0.04** 11 AMMAR 02 CLE2  $e^+ e^- \approx \gamma(4S)$

$\Gamma(\Omega^- \pi^+ \pi^0)/\Gamma(\Omega^- \pi^+)$	$\Gamma_6/\Gamma_5$
<b>VALUE</b> $\frac{\text{EVTS}}{\text{CL\%}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

**1.27±0.31±0.11** 64 ± 15 AUBERT 07AH BABR  $e^+ e^- \approx \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$4.2 \pm 2.2 \pm 0.9$  12 CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV

$\Gamma(\Omega^- \pi^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$	$\Gamma_7/\Gamma_5$
<b>VALUE</b> $\frac{\text{CL\%}}{\text{EVTS}}$	<b>DOCUMENT ID</b> <b>TECN</b> <b>COMMENT</b>

**0.28±0.09±0.01** 25 ± 8 AUBERT 07AH BABR  $e^+ e^- \approx \gamma(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<0.56$  90 CRONIN-HEN..01 CLE2  $e^+ e^- \approx 10.6$  GeV  
**seen** ADAMOVICH 95B WA89  $\Sigma^-$  340 GeV  
 $<1.6$  90 FRABETTI 93 E687  $\gamma$  Be,  $\bar{E}_\gamma = 221$  GeV

NODE=S047215;NODE=S047

NODE=S047

DESIG=4;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=5;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=1;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=7;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=2;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=6;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$   
 DESIG=3;OUR EVAL; $\rightarrow$  UNCHECKED  $\leftarrow$

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NODE=S047R5

NODE=S047R6  
NODE=S047R6

NODE=S047R7  
NODE=S047R7

NODE=S047R1  
NODE=S047R1

NODE=S047R3  
NODE=S047R3

NODE=S047R9  
NODE=S047R9

NODE=S047R8  
NODE=S047R8

NODE=S047R4  
NODE=S047R4

## $\Omega_c^0$ REFERENCES

SOLOVIEVA	09	PL B672 1	E. Solovieva <i>et al.</i>	(BELLE Collab.)	REFID=52631
AUBERT	07AH	PRL 99 062001	B. Aubert <i>et al.</i>	(BABAR Collab.)	REFID=51863
LINK	03C	PL B561 41	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)	REFID=49371
AMMAR	02	PRL 89 171803	R. Ammar <i>et al.</i>	(CLEO Collab.)	REFID=48985
CRONIN-HEN... 01		PRL 86 3730	D. Cronin-Hennessy <i>et al.</i>	(CLEO Collab.)	REFID=48120
ADAMOVICH	95B	PL B358 151	M.I. Adamovich <i>et al.</i>	(CERN WA89 Collab.)	REFID=44445
FRAZETTI	95D	PL B357 678	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=44444
FRAZETTI	94H	PL B338 106	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=44021
FRAZETTI	93	PL B300 190	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)	REFID=43075
ALBRECHT	92H	PL B288 367	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=42149
BIAGI	85B	ZPHY C28 175	S.F. Biagi <i>et al.</i>	(CERN WA62 Collab.)	REFID=12150

NODE=S047